



The Minuteman

Volume 31, Issue 2

November 2001

President's Corner by Kevin Paetzold, K1KWP

I would like to extend my appreciation to all the amateur radio operators and MMRA members who were able to help in New York, Washington and locally after the events of September 11. Members helped on the scene in New York (some made multiple trips) as part of ARES assisting both the Red Cross and Salvation Army (SATERN). In addition at least one member serves on one of the disaster medical assistance teams that was dispatched to New York.

I have worked numerous public service events around New England. Usually I was able to use handheld radios for these activities. One of the lessons learned at the response in New York was the need for radios with more power and capabilities than the typical HT. In retrospect, it should not be surprising that Manhattan is a challenging RF environment. The need for more power, VHF/UHF, and cross band capability when operating in that kind of environment was made evident. The need for filtering in some locations was also made evident. We do not know how amateur radio operators might be called upon in the near future. I encourage members to evaluate their "go-kits" in light of the above.

On September 30 we held the first MMRA Mobile-a-thon picnic. It was really great to see so many members attend. I also would like to thank those from other local radio clubs who attended. I think a good time was had by all. Many people mentioned that we should repeat this event in the future, perhaps even Spring and Fall. It has been proposed that we should plan a spring event like this in the Marlboro / Metro-west area.

In last month's newsletter I talked about things members can do to help the MMRA. I was pleased to get a fair amount of response from members making me aware of how they could help. I already know that this will help to make the week to week and month to month workload of keeping the MMRA functioning easier. Please consider how you can get more involved with the organization.

In this day and age many people use email to point that they consider it ubiquitous. Even though the MMRA is a radio communications organization we still use email for a lot of our communication (e.g. Board meeting notifications, agendas, reporting technical problems, status of issues, etc...). I encourage all members to check out the mmra@yahoogroups.com mailing list. It is also clear that not all members have email access. Some members rarely attend meetings or rarely check into the Tuesday night nets. As a result there may be questions, ideas, concerns, or issues from some members that the rest of us are not aware of. As a result I have suggested to the newsletter editor (N1BE) that we encourage members to submit "letters to the editor" as another communication path between members. Email to N1BE@ARRL.NET or postal mail to the MMRA P.O. Box will both work fine.

Most of the upcoming holidays will be over before the next newsletter. I would like to extend my wishes that everyone have a good holiday season and that we all have a happy New Year.

Next Meeting— not the usual routine!

We will be breaking the usual routine in several ways at the next meeting:

- The meeting is not at the Campion Center. Thanks to Bill, WAINLR, we are touring the facilities of American Medical Response in Natick, MA.

- Although we usually meet on the third Wednesday, this month the meeting is on the second Wednesday, November 14th. This change was made so the meeting would not fall on the day before Thanksgiving.

Check out the details on page 3.

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About the Minuteman Repeater Association

The Minuteman Repeater Association (MMRA) is dedicated to Amateur Radio and public service. The MMRA has built a large system of repeaters in Eastern Massachusetts.

The MMRA meets on the 3rd Wednesday of September, November, January, March, and May. Meetings start at 7:30 PM in the Campion Center in Weston MA. Meetings are open to all interested parties. Talk-in is available on the Weston 2-meter repeater (146.82).

The Minuteman newsletter is mailed one week before each meeting. Members are encouraged to submit articles. Articles may be sent to the editor via email to n1be@ar1.net. The deadline for articles is the last Friday of the month preceding the meeting.

Each Tuesday evening at 8PM the MMRA links all the repeaters for an open net. The topic is "Technical Information and Other Stuff". Feel free to join us.

Membership in the MMRA is open to all radio amateurs. Annual dues are \$25 per individual or \$35 per family. The membership year starts on Sept 1st. Dues for new members are prorated for the remainder of the year. See our web-site for details.

Email to the club leadership should be sent to mmra@mmra.org. The MMRA web site is: <http://www.mmra.org/~mmra>

An email distribution list for club members has been established on: <http://www.yahogroups.com/> — the name of the group is "MMRA".

Repeater and Frequency Information

Location	MHz	PL	Call	Note
Marlboro	53.810	71.9/173.8	W1BRI	PTL
Marlboro	146.610	146.2	N1BHI	FTL
Quincy	146.670	146.2	W1BRI	PTL
Stoneham	146.715	146.2	N1NVL	PTL
Weston	146.820	146.2	WZ0C	PTL
Hopkinton	223.940	103.5	N1BHI	FTL
Quincy	224.400	103.5	N1KUG	FTL
Weston	224.700	none	N1HBR	FTL
Stoneham	446.725	88.5	N1NVK	NA
Shrewsbury	449.575	88.5	W1BRI	FTL
Marlboro	449.925	88.5	N1HBR	Network Hub

Marlboro	144.390	none	N1QPR-2	APRS Digipeater
Marlboro	145.030	none	KA1OUI-3	Net/ROM Digipeater
?	145.630	146.2	W1BRI	Fox Box

Notes: FTL = Full Time Linked to the Hub.
PTL = Part Time Linked (on demand).
NA = linking is Not Available.

PL: There are two 6 meter receivers with different PL's. PL is required on 2 meters to prevent interference. The code **750** will temporarily disable the PL requirement.

Using the Autopatch: Only the hub has a telephone line.
(1) Link to the hub if necessary.
(2) Then bring up the patch.

Control codes are sent to members upon receipt of dues.

MMRA Leaders

President	Kevin Paetzold	K1KWP
Vice President	Bob Evans	N1BE
Secretary	Michael Ford	WZ0C
Treasurer	Bill Northup	N1QPR
Clerk	Eddie Mulhern	N1NOM
Technical Officer	Bryan Cerqua	W1BRI
Director	Al Kunian	KA1AL

Director	Wayne Foley	N1XXI
Director	Shelley Northup	N1VJE
Director	Bill Thorpe	WA1NLR
Director	Clark Conti	N1NVK
Emergency Coordinator	Kevin Paetzold	K1KWP
Newsletter Editor	Bob Evans	N1BE
VEC Liaison	Bill Wade	K1IJ
Webmaster	Michael Ford	WZ0C

Getting to the November 14th MMRA Meeting

This meeting will NOT be at the Campion Center as usual but will be at the offices of American Medical Response in Natick where, thanks to WA1NLR (and the AMR staff), we will tour the AMR radio dispatch facilities.

As usual the meeting will start at 7:30PM. It is important that members be on time for the meeting so that we can conduct whatever club business is needed and so that AMR staff can conduct the tour in a coordinated and timely way.

The address of AMR and directions are below. Talk-in will, as usual, be on the Weston 146.820 PL 146.2 repeater.

American Medical Response Inc.
4 Tech Circle
Natick, MA 01760-1029
Phone: (508)653-1140

Directions:

From Route 20,

- Take route 27 South.
- Travel 3.6 miles.
- Turn left at the blinking yellow light, which is immediately after the Mass Pike Bridge, onto Pine St.
- Take Pine St. to the end.
- Turn right onto Oak St.
- Take next left onto Tech Circle.
- AMR is 2nd building on left. (White building with AMR sign in front.)

From Route 9,

- Take Route 27 North for 1 Mile.
- Watch for Dairy Queen and blinking light.
- Turn right at the blinking light onto Pine St.
- Take Pine St. to the end.
- Turn right onto Oak St.
- Take next left onto Tech Circle.
- AMR is 2nd building on left. (White building with AMR sign in front.)



Map showing routes to AMR in Natick.

Errata

In the last newsletter your editor forgot to update the listing of officers.

Bill Thorpe, WA1NLR, was elected to a 2-year term on the board of directors last May. Clark Conti, N1NVK, as outgoing president, assumed a 1-year term on the board.

I apologize for this omission.

License in One Day Ham Class

A one day technician license class will be given Nov 10th from 9AM to 6PM with the exam right after that. You need to read and bring "Now You're Talking" to get started. There may be copies to buy at the class, but check ahead. You also need to bring \$10 for the exam fee AND two forms of ID. If you have any questions, send them to Bruce at W1LUS@ARRL.NET. The class will be given in Chelmsford, MA at Route 110 and Hunt St., at the Murdock Middle School.

If you are coming, you need to send Bruce a note so he can plan. Bruce will work out a lunch schedule but you'll have to chip in for pizza and soda, or something. He'll play that by ear that day. Bertucci's is just down the street.

Repeater Report by Bryan Cerqua, W1BRI

449.575: The MMRA board voted to relocate this repeater since the Concord plans have been placed on hold. I got permission to install it at Maxtor in Shrewsbury. I obtained the repeater from Bill, N1QPR. Once I had it on the bench at home I looked at what it would take to rebuild the repeater. This is not the first time this repeater has been home for repair. About 5 years ago I ran this repeater at home in Milford after remounting all the components into a smaller rack, preparing it for the Taunton site.

This repeater has an interesting history. It was purchased from Roger, W1OJ. At one time it was part of WorldNet, linked to 10 meters, and was much fun to use. I like to call it the "Homeless" repeater since the MMRA had it on the air in Milford, Taunton, Acton, Marlboro, and now Milford again before hopefully its final home in Shrewsbury.

After looking at the nightmare of wires and relays on this repeater I decided to get out the diagonal cutters and give this repeater a long over due haircut. See the photo to the right.

I removed everything from this repeater. I wanted to reconfigure the radios on top of each other instead of side by side so I could fit the Uniden link radio inside the same repeater rack. There was plenty of room after removing the large power transformer that is no longer needed now that the repeater uses an external 12V supply. The next photo shows how the radios are mounted on the top-side of the repeater rack panel.

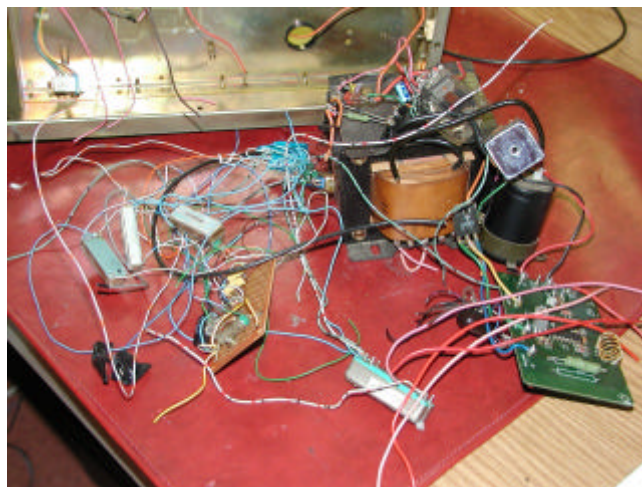
Since this repeater uses a link radio it required some modifications to the Scm 5K controller to handle two audio paths and some other support circuitry such as relays, LED and fan driver transistor. I decided to put all of the external circuitry on a card edge connector donated by Bill, WA1NLR. Many thanks to Bill since "You Do It" electronics had nothing like this card. It can be unplugged in seconds and makes any rework a breeze. The photo on the right is a close up of the bottom of the control card showing all the wiring and the gray shielded cable used for all the audio paths.

The link radio has two channel capability so I ordered a pair or crystals to link it into the Milford 446.825 repeater as well as Marlboro 449.925 repeater. The default link will be to Marlboro. I created user and control op codes that are very easy to use. The nice part of the doing the controller code is that I can customize it. After inactivity the link will revert back to what the control op has set it to: OFF, Marlboro or Milford.

The repeater will have its own battery backup even though the Shrewsbury site has emergency power. I completely documented this entire system on the CAD station at work as well as using my digital camera to label all the components on the control card. I wanted to make this repeater easy to service since I can never remember how I build these things.

The repeater has a cooling fan for the power amp and one for the link radio. The fans are controlled by the activity timer. They turn on once the repeater is keyed up and stay on for 10 minutes after. Another nice feature is that all the I/O for the Scm 5K are brought out to header test pins on the topside of the control card to make it easy to troubleshoot. To program the repeater all one has to do is plug in the modem to the front panel and a relay is auto-

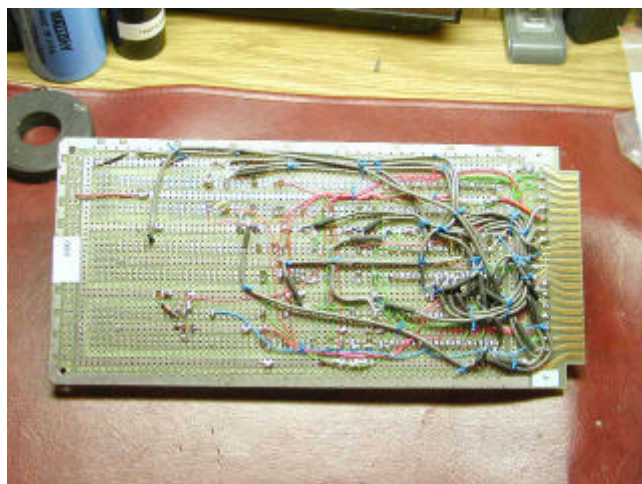
(Continued on page 5)



Repeater before "haircut"



Radios mounted on topside of rack panel.



Control card close-up..

Fox Hunting News by Michael Ford, WZ0C

The MMRA holds foxhunts every Saturday morning beginning at 10 AM on the 146.61- repeater. The fox transmits for 30 seconds every 5 minutes on the input of the repeater, and then coordination usually takes place on the repeater between the fox transmissions. All are welcome to join, and the group usually visits a local restaurant for brunch after the last hunter has arrived at the fox's location.

The following are accounts of recent hunts. Larry, W1DYJ, provided maps.

Oct 27: Clark, N1NVK, hid in Marlboro, in the park across Concord St. from the repeater. Clark wasn't in his usual vehicle; this threw the hunters for a loop. Eddie, N1NOM, was first in.

Mike, WZ0C, was second, followed closely by Bill, N1QPR, and Shelley, N1VJE. Bob, N1BE, and Anne, N1MPF, were next.

Initial bearings: W1JDO: 300 deg, N1BE: 180 deg from Birch Hill in Stow
Fox Location: 42,21.316N 71,31.489W

Oct 20: Mike, WZ0C, hid in Marlboro in a parking lot inside the cloverleaf at the junction of I-495, and I-290. The lot was only accessible by taking the exit to Rt. 85 from 495S. Clark, N1NVK, remembered when Eddie, N1NOM, had previously hidden in this spot and was quick to find Mike. Bob, N1BE, was next in.

Initial bearings: W1JDO: 285 deg,

K1KMN: 315 deg, WA1NLR: 133 deg, N1BE: 200 deg from Birch Hill, N1NVK: 285 deg from the Marlboro Hospital

Fox Location: 42,21.692N 71,35.442W

Oct 13: Eddie, N1NOM, hid in an industrial park parking lot in Hudson off of Reed Rd. Mike, WZ0C, was the only hunter and found Eddie in just short of 30 minutes.

Initial bearings: W1JDO: 315 deg
Fox Location: 42,22.5N 71,33.5W

Oct 6: Bob, N1BE, hid at a cemetery in Devens 12.75 miles from the 146.61 repeater site and 28.9 miles from Frank, W1JDO's QTH. Eddie,

(Continued on page 6)

Repeater Report (cont.)

(Continued from page 4)

matically switched to feed the programming audio to the controller.

There is a 19" cover the same size as the repeater rack. It screws over the front panel to protect all the controls and keep fingers of the curious out of the system.

Installation: I plan to install the repeater at the Shrewsbury site next weekend. Hopefully by the time you read this newsletter the repeater will be on the air in Shrewsbury and we can hear our president Kevin, K1KWP, run the Tuesday night net from home in Shrewsbury instead of needing to go mobile.

This is the first UHF repeater that will be linked into the MMRA system other than the 449.925 HUB. If we could tie the Stoneham UHF repeater in, that would be great. Stoneham 440 is the only MMRA repeater that cannot link up. The MMRA now has three 220, four two meter, two UHF and one six meter repeaters that all can be linked together. Very few clubs have a network like ours!

In the next newsletter I plan to have some photos of the installation and views from the roof.



Bottom of the rack panel with the 5K controller on the left and the control card on the right.

The following three photos show the final product



Mobile-a-Thon Memories: Photos from Sept. 30th Picnic



W1DYJ with his fox mapping board

Bryan, W1BRI, brought along his camera and took these pictures. More pictures from this fun event are on the next page.

We are considering having another picnic next Spring in the Marlboro area.



W1GSL with MicroME foxbox we hunted

Nets on MMRA Repeaters

These nets are regularly held on MMRA repeaters:.

Net	Repeater	When
ARES	All Linked	4th Sun. @ 9:30 PM
RACES	146.715	1st Mon. @ 7:30 PM
TIOS	All Linked	Tuesdays @ 8:00 PM

TIOS, the Technical Information and Other Stuff net on Tuesdays is an informal net that anyone may check into. Topics of discussion vary by week. Anyone in may ask questions about technical information or other stuff. This is a good net to get ideas for a new project or ideas on how to fix a problem that you've been seeing.

American Red Cross HF Net

The K1ARC net meets at 8:00 P.M. (local) on 3.915 MHz, plus or minus 5 kHz, on the FIRST Wednesday of each month. This net is open to all amateur radio operators who are interested in HF emergency communications.

The purpose of this Red Cross Net is to discuss emergency communication topics and to act as a liaison net between Red Cross Chapters and volunteers. K1ARC is also a hurricane net so look for K1ARC to be on the air whenever Hurricane Warnings are posted for the region.

Do you have emergency power for your station? Can you put up an emergency antenna if your station's main antenna is knocked down due to high winds? Do you have canned food and bottled water to last for at least 10 days? These are just a few of the questions you should be considering this hurricane season.

Please visit our American Red Cross K1ARC web page at: www.qsl.net/k1arc/

All interested persons are invited to join the K1ARC Red Cross email reflector by sending an email message to: k1arc_red_cross_net-subscribe@yahoogroups.com

Fox Hunting (cont.)

(Continued from page 5)

N1NOM, and Clark, N1NVK, followed the signal north from their starting positions in the Hudson-Marlboro area. An hour later, after it was determined that the fox was in the Harvard-Ayer vicinity, Bill, N1QPR, and Shelley, N1VJE, joined the hunt. Eddie was first to the fox at 11:56, followed by Bill and Shelley, and then Clark.

Initial bearing: W1JDO: 315 deg
Fox Location: 42,31.700N 71,37.320W

Sept 8: Eddie, N1NOM hid near the abandoned Conrail right of way in Marlboro. Maps are on a following

page in the email newsletter.

Initial bearings: N1VJE: 195,
W1DYJ: 250, K1KMN: 283
W1JDO: 295

Fox Location: 42, 20.953N 71, 33.273W

The MMRA also has an automatic "**Fox Box**" that is hidden on most weekends. The Fox Box is a green ammunition box (with the ammunition replaced by a transmitter, a battery, and some control circuitry) with a 1/4-wave antenna mounted on it. The box transmits for 30 seconds every two and a half minutes on 145.63 MHz with a PL tone of 146.2. Once you find the box, sign in on the pad

of paper located in the end of the box.

Announcements of the Fox Box being hidden and clues about its whereabouts are sent to the MMRA mailing list on yahoo groups. If you would like to receive the announcements but don't wish to join the list on yahoo groups.com, send email to wz0c@arrl.net to be added to his fox-only list.

Fox box report:

As of late, the fox box is out of commission due to a broken transmitter. Bryan, W1BRI, is working on repairing the transmitter. When he's done, the box should be as good as new.



Above: **N1BE**, helped by **KA1PPG**'s children, fox hunting.

To the right: **N1QPR** with portable 2-M / 70-cm satellite antenna



More Mobile-a-Thon Memories

To the right: **W1GSL**, **WZ0C**, and **W1DYJ** check out **N1BE**'s quad on two antenna analyzers.

Lower right: **N1NOM** and **N1NUS** in pursuit of the **MicroME**



The whole gang

Long Wave Ramblings by Bob Evans, N1BE

Do you ever listen to the frequencies below the AM band? There are many signals, navigational beacons, unlicensed 160-190 KHz experimenters, and even a proposed 137 KHz ham band!

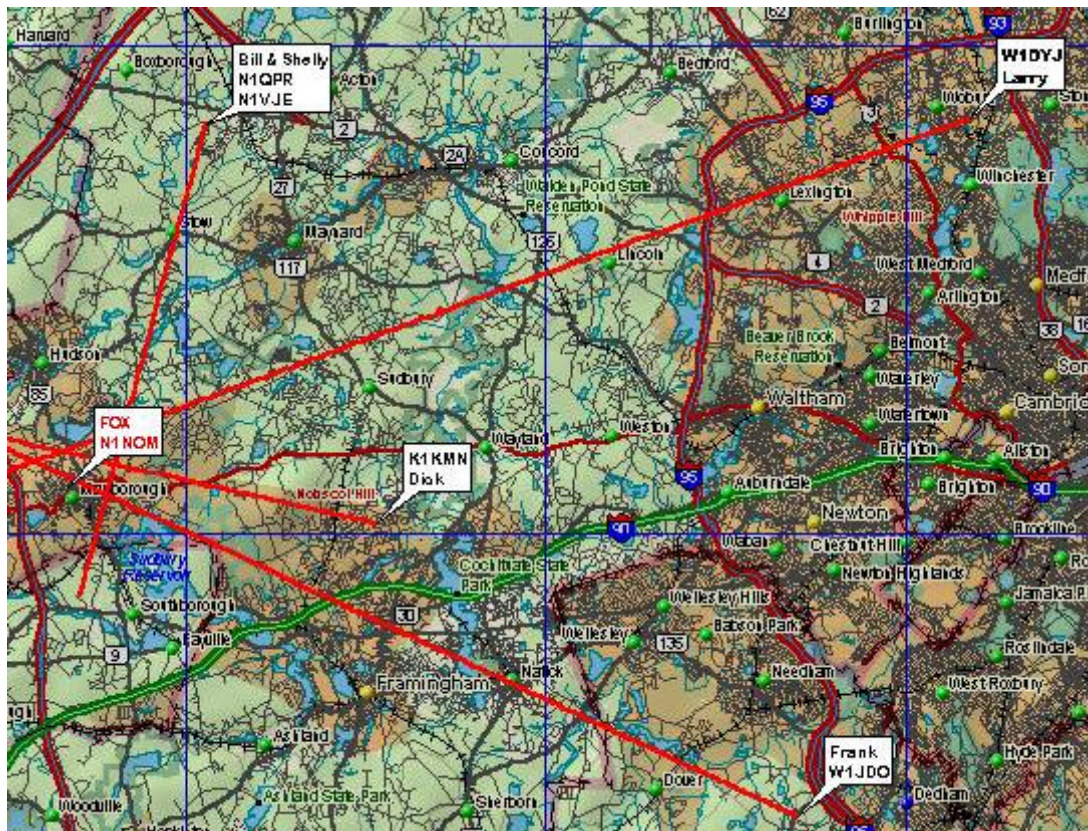
We are entering the best season for LW listening. There is less static, and longer nights allow time for the absorptive D-layer of the ionosphere to dissipate. Interference from neighborhood electrical appliances can also be a problem. Consequently early morning, 3AM until sunrise, is the best time for listening.

The Longwave Club of America has some information. I particularly recommend On The Art of NDB Dxing by Sheldon Remington, KH6SR on their web site: www.lwca.org.

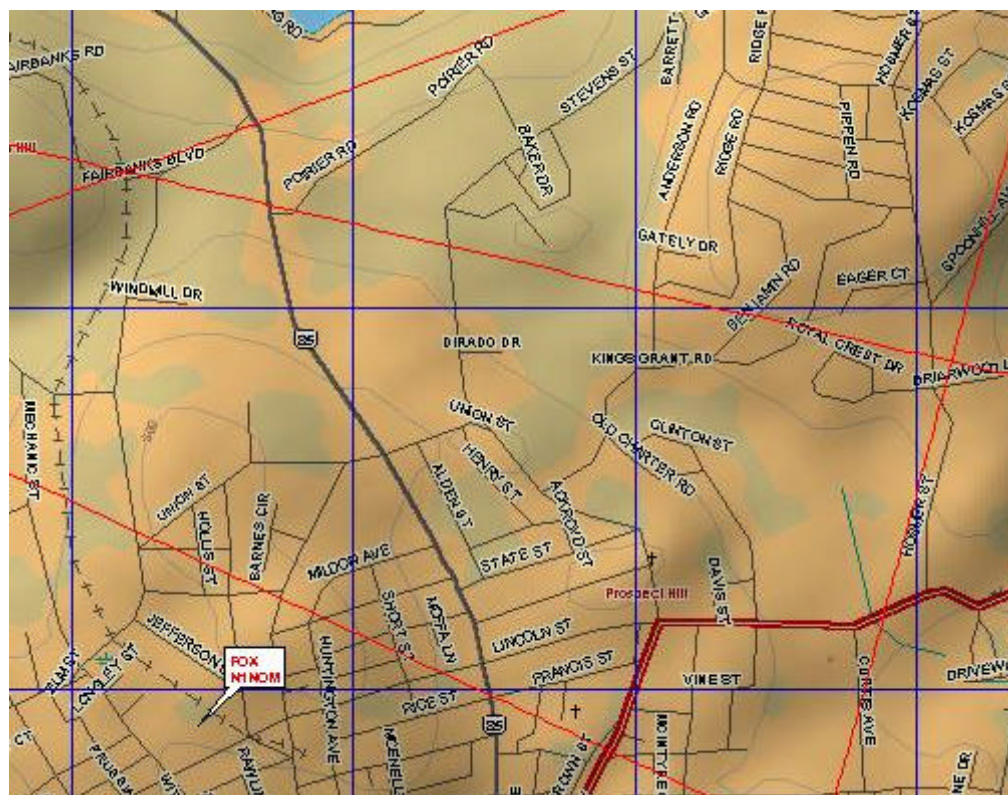
194 TUK Nantucket, MA
198 DIW Dixon, NC
206 QI YARMOUTH, Nova Scotia
216 CLB Wilmington, NC
220 IHM MANSFIELD, MA
227 TAN TAUNTON, MA
241 SFZ PAWTUCKET, RI
251 SKR Bedford, MA
257 FFF PLYMOUTH, MA
269 TOF Topsfield MA
274 EW New Bedford, MA
279 RS Worcester, MA
303 YPP Parent, Quebec
332 BE Bedford, MA
338 DRY Derry NH
340 YY MONT-JOLI, Quebec

346 LI Boston, MA
365 FIT Fitchburg, MA
366 YMW MANIWAKI, Quebec
368 IMR MARSHFIELD, MA
375 BO Boston, MA
378 RJ ROBERVAL, Quebec
382 LQ Boston, MA
392 ML CHARLEVOIX, Quebec
394 YB NORTH BAY, Ontario
397 OW Norwood, MA
402 LW Lawrence, MA
404 YSL ST LEONARD, New Brunswick
407 H MONTREAL, Quebec
414 BC BAIE-COMEAU, Quebec
415 EK Worcester, MA
516 YWA PETAWAWA, Ontario

Logged using a minimal 10 ft indoor antenna and a Sony ICF-7600D. TUK and BE are very strong at my QTH.



September 8, 2001 Fox Hunt Maps



Next Meeting — Wednesday Nov. 14, 2001

WA1NLR: Field Trip to American Medical Response

The November 14th MMRA meeting, will be at AMR, 4 Tech Circle, Natick. AMR is the nation's largest private provider of medical transportation.

At the meeting there will be a brief presentation about AMR. Then we will tour the extensive radio system at the site.

Map and directions to AMR are on

page 3. As usual, talk-in is on the 146.82 Weston repeater.

Please be aware that there is no elevator at AMR. It will be necessary to use stairs.

Calendar of Ham Radio Events

- Nov 4:** Framingham Flea
- Nov 7:** K1ARC HF Net
- Nov 10:** License in a day class.
- Nov 14:** **MMRA meeting at AMR.**
- Nov 17:** Londonderry NH Flea
- Nov 17:** 1200RC + WARA Auction in Newton MA
- Dec 19:** **MMRA Board meeting**
- Dec 28:** **MMRA Newsletter Deadline**
- Jan 16:** **MMRA meeting**
- Jan 26:** Nashua Antique Radio Flea

(Flea market info from W1GSL list. <http://mit.edu/w1gsl/Public/ne-fleas>)



MMRA VE Sessions

3rd Saturday of each Month

9 AM at the Marlboro Public Library

Contact: Bill Wade, K1IJ

781-891-9079 Evenings 6 to 10 PM,

Weekends 8 AM to 10 PM.

Accredited by the ARRL VEC

THE MINUTEMAN REPEATER ASSOCIATION

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Email: mmra@mmra.org



WE'RE ON THE WEB!
WWW.MMRA.ORG/~MMRA
